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P54428RE**REMARKS**

This Response/Amendment is prepared in response to the Office action mailed on 25 March 2008 (Paper No. 20080317).

I. Status of The Claims Under 37 C.F.R. § 1.173 (c)

Claims 1 through 60 are pending in this application.

II. Amendment of Claims Under 37 C.F.R. §1.173(c)

Independent claims 11 and 17 are amended in this paper.

III. Explanation of Support for Amendment of Claims Under 37 C.F.R. §1.173(c)

In the amendment of independent claim 11, Applicant repeated the previous definition of the verb “interrupting” already present in pending claims 11 and 17, albeit as a common noun –interruptions– in the plural tense, with amended claims 11 and 17 now reading,

a switch disposed between said power supply and the heater,
said switch interrupting application of the electrical energy to the
heater independently of other interruptions of other applications of
the electrical energy to the monitor when the monitor enters a
power-off mode.

Objection to the Drawings

The Examiner objected to Figure 1 and required labeling of Figure 1 “Prior Art” because “only that which is old is illustrated”. The rationale given by Paper No. 20080317 is untenable.

First, nothing in either 35 U.S.C. §102 or §103(a) equates “old” with “prior art.”

Second, the administrative record before the Office demonstrates that Figure 1 is the work of the Applicant, and that Figure 1 was filed as an original part of this application in conformance with 37 CFR §1.83. Any publication of Figure 1 was subsequent to the filing of this application.

Accordingly, withdrawal of this requirement is respectfully requested.

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Paper No. 200800317 stated that this requirement would not be held in abeyance. According, a replacement sheet properly labeled as "Replacement Sheet" accompanies this response, together with a Letter to the Office Draftsman, which authorized entry of this "Replacement Sheet" of Figure 1 contingent upon exhaustion of Applicant's administrative remedies to traverse this requirement.

Claim Rejection Under 35 U.S.C. §103

- A. Rejection of Claims 1, 3, 4, 7-15, 17-29, 31-41, 43-59 under 35 U.S.C. §103(a) as being unpatentable over Applicants' admitted prior art (AAPA) in view of Kikinis (U.S. Patent No. 5,389,952) cited in our Information Disclosure Statement filed on 27 December 2004.**

Claims 1, 3, 4, 7 through 15, 17 through 29, 31 through 41, 43 through 59 are rejected under 35 U.S.C. 103(a) as being unpatentable over what the Examiner as labeled as "Applicants admitted prior art herein after AAPA" in view of Kikinis U.S. 5,389,952. Applicant respectfully traverses this rejection for the following reason.

In support of this rejection, the Examiner asserts that:

"In regards to claims 1, 7, 9, 10, 14, 21, 23-25, 27-28, 31, 35, 38, 43, 46, 49, 51, 53, 55-56: AAPA teaches an apparatus for providing power to a display monitor, said apparatus comprising: a power supply unit (10) for converting an AC input voltage (AC) to a DC output voltage; a voltage regulator for producing a constant output voltage supplied to the monitor (20); a transformer for producing necessary operating voltages for each part of the monitor (30), in which the output voltage of the voltage regulator being supplied to a primary of the transformer; a feedback circuit for detecting current variation at the output of the transformer (40) and for supplying the detected variation value to the voltage regulator; a signal input port connected to a video output of a computer (50); a microcomputer operated in response to a video signal received at a video input port of the monitor (60) and a corresponding control mode indicating signal (MS); and a signal amplifier for amplifying and processing a video input signal supplied to a signal input of the color display tube (80). AAPA does not teach a switching circuit provided in a heater power supply line between one output of the transformer and a

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heater of a color display tube of the monitor for switching off the heater power supply line when the monitor enters a power-off mode; and the microcomputer operated in response to a video signal received at a video input port of the monitor to produce a power control signal. *Kikinis teaches a microcomputer (339) operated in response to a video signal (127 specifically the HSNC and VSYNC of the video) received at a video input port (333) of the monitor (347) to produce a power control signal (341) to switch off power to the heater (Column 5 lines 3-45) Specifically level 1 "cuts off power to all circuits in the monitor 347 except microcontroller 339, interface 333, and video circuit 345" while level 2 "cuts off power to all circuits except those described above plus the CRT cathode heater" Thus level 1 signal cuts off power to the heater (inherently done by a switch). All the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention. It would have also been obvious to perform control via software.*

In regards to claim 3: Kikinis teaches the microcomputer generating a continuous active level signal as the power control signal when the monitor enters the power-off mode. Kikinis does not state if this "active level" is positive (high) or nevasive [*sic*] (low) logic. Official notice is taken that both positive and negative logic are known. The claim would have been obvious because "a person of ordinary skill has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense." KSR.

In regards to claim 4: AAPA teaches a mode signal (MS) to a mode indicator (70). AAPA is silent upon the form of the mode signal. Flashing lights are known. All the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention.

In regards to claim 8: Kikinis teaches the video including red green and blue (R,G,B).

In regards to claims 11, 17: Kikinis teaches interrupting

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power to the heater independently of other applications (the microcontroller, interface and video circuit).

In regards to claims 12, 18, 20, 22, 26, 32, 34, 37, 39-41, 44-45, 47-48, 52, 54, 57-58: Kikinis teaches interruption of the video sync signals controls the power mode selection.

In regards to claims 13, 15, 19, 29, 33, 36, 50, 59: AAPA teaches a mode indication. AAPA teaches that it is well known and expected in the art to include a mode indicator including LEDs for indicating a power mode (Fig. 1; col. 2, lines 4-14; col. 4, lines 47-60).

More specifically, the Examiner's proposed combination teaches:

Level 1 Power State

In its Level-1 state, the proposed combination "cuts off power to all circuits in the monitor 347 except microcontroller 339, interface 333, and video circuit 345." In the proposed combination, in the language of the Examining staff's proposed combination, "level 1 signal cuts off power to the heater (inherently done by a switch)." This is not what the text of the proposed combination states however, because in its own language, the proposed combination when in its Level-1 state, "cuts off power to all circuits in the monitor 347 except microcontroller 339, interface 333, and video circuit 345." In summation, the proposed combination responds to the onset of a Level-1 state when "video circuit 345 senses an active voltage level on Level-1 signal line 341" and "cuts off power to all circuits in the monitor 347", but does not "cut off power" to microcontroller 339, interface 333, and video circuit 345."

Level 2 Power State

In its Level-2 state, the proposed combination "cuts off power to all circuits except those described above plus the CRT cathode heater." More completely, in its Level-2 state, the proposed combination responds to "an active voltage level on Level-2 signal line 343" and "causes video circuit 345 to cut off power to all circuit in the monitor 347", but does not cut off power to either "microcontroller 339", or "to interface 333", or to "video circuit 345" or to "the CRT cathode heater."

Claim 1

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First, and in contradistinction, Applicant's claim 1 defines, *inter alia*,

“a voltage regulator for producing a constant output voltage supplied to the monitor;

a transformer for producing necessary operating voltages for each part of the monitor, in which the output voltage of the voltage regulator being supplied to a primary of the transformer;

a feedback circuit for detecting current variation at the output of the transformer and for supplying the detected variation value to the voltage regulator;

a switching circuit provided in a heater power supply line between one output of the transformer and a heater of a color display tube of the monitor for switching off the heater power supply line when the monitor enters a power-off mode”

Nowhere does the proposed combination provide Applicant's structure, with such prosaic features as, by way of example, Applicant's “switching circuit provided in a heater power supply line between one output of the transformer and a heater of a color display tube.” The Examining staff endeavors to waltz past this omission in the art by arguing that,

“All the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention. It would have also been obvious to perform control via software.”

Nowhere does the proposed combination either teach or suggest Applicant's “switching circuit provided in a heater power supply line between one output of the transformer and a heater.” Instead, the proposed combination teaches a “voltage control” disposed wholly inside “Video circuit 345”, with the “voltage control” being driven by “Micro-controller 339” via “Level-1 signal line 341” and “Level-2 signal line 343.” This fails to meet the express language of Applicant's claim 1, with Applicant's “switching circuit provided in a heater power supply line between one output of the transformer and a heater.”

Moreover, the Examiner's proposed combination fails to show Applicant's “heater power supply line between one output of the transformer and a heater.” Is it the premise of the

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Examining staff that “Micro-controller 339” provides Applicant’s electrical power as well as the proposed combination’s “active voltage level[-s]” (*i.e.*, control signals) via “Level-1 signal line 341” and “Level-2 signal line 343”? Written clarification in conformance with 37 CFR §1.104(a) and (b) is respectfully requested in subsequent, non-final Office correspondence.

Furthermore, is it the position of the Examining staff that any electrical circuit which results in an interruption of the application of electrical power to a cathode heater” will meet the express language of Applicant’s claims? Applicant submits that the proposed combination may equally be interpreted as suggesting that “Micro-controller 339” via “Level-1 signal line 341” causes application of electrical power with an equal amplitude but opposite polarity to that normally applied to the heater cathode, or alternatively, application of the control signal from “Micro-controller 339” via “Level-1 signal line 341” to activate a solenoid to remove the heater cathode from its electrical socket. It is easily seen therefore, that the Examining staff’s assertion that “*Thus level 1 signal cuts off power to the heater (inherently done by a switch)*” is fallacious, and unsupported by the art of record.

In order to make a *prima facie* demonstration of obviousness under 35 U.S.C. §103(a), “all the elements of” the pending claims must be “accounted for in the prior art relied upon in this record.”¹

Although the Examining staff readily admits that “all [*sic* of] the claimed elements were known in the prior art”, the Examining staff has been singularly unable to show evidence in support of its statement. The only “switching circuit” in the administrative record before the Office is “switching circuit 240” taught by Applicant’s Figure 2, and defined by Claim 1. Even assuming *arguendo* the undemonstrated factual accuracy of the Examiner’s statement, the factual evidence in the administrative record before the Office demonstrates that the art is devoid of Applicant’s “switching circuit provided in a heater power supply line between one output of the transformer and a heater of a color display tube”, and this absence is convincing indicia of non-

¹ *In re John B. Sullivan, et al.*, ____ F.3d ____, ____ U.S.P.Q.2d ____ (Fed. Cir. 2007).

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obviousness.

Second, the fact that the proposed combination responds to the onset of a Level-1 state when “video circuit 345 senses an active voltage level on Level-1 signal line 341” and “cuts off power to all circuits in the monitor 347”, but does not “cut off power” to microcontroller 339, interface 333, and video circuit 345” does not inherently mean that the proposed combination also meets express language of Applicant’s claim 1, in which teaches Applicant’s “a switching circuit provided in a heater power supply line between one output of the transformer and a heater of a color display tube of the monitor for switching off the heater power supply line when the monitor enters a power-off mode” because the proposed combination lacks teaching or suggestion of Applicant’s “a switching circuit provided in a heater power supply line between one output of the transformer and a heater” and instead, relies upon “video circuit 345” to distinguish between Level-1 and Level-2 active voltage levels on signal lines 341, 343, respectively; “video circuit 345” is a critical component of the Examining staff’s proposed combination, and is, according to the teachings of the proposed combination, not interchangeable with “microcomputer 60” of Figure 1 and “switching circuit 240” of Applicant’s claim 1. The proposed combination fails to teach or suggest any structure such as Applicant’s “switching circuit.”

Accordingly, even assuming *arguendo* the fact that both Applicant’s claim 1 and the proposed combination both manage to achieve, in part, the same result, namely “switching off the heater power supply line” does not also provide an evidential inference that both Applicant’s claim 1 and the proposed combination both attain that result in the same manner by using the same structure because, as is earlier explained in these remarks, that structure and the process performed by that structure is untaught by the proposed combination and could easily be such structure as, by way of example, be interpreted as suggesting that “Micro-controller 339” via “Level-1 signal line 341” causes application of electrical power with an equal amplitude but opposite polarity to that normally applied to the heater cathode, or alternatively, application of the control signal from “Micro-controller 339” via “Level-1 signal line 341” to activate a solenoid to remove the heater cathode from its electrical socket. Do such structures not exist and are not such structures also well known in the art? Could such structures not also be used to modify the primary reference in

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order to attain the same result as the apparatus of Applicant's claim 1, even though such structures may not meet the expressed language of Applicant's claim 1?

Equivalence of results achieved by different structures does not support a finding of obviousness of those structures, particularly here, where the proposed combination fails to teach or suggest any structure such as Applicant's "switching circuit." The simple evidentiary fact of record admitted by the Examining staff that "[t]hus level 1 signal cuts off power to the heater (inherently done by a switch)" and that "[a]ll [sic, "of"] the claimed elements ..." such as Applicant's "switching circuit" **"were known in the prior art"** and the admission by the Examining staff that **"one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions"** serves as overwhelming evidence that an improvement in the art was made by using components parts which had long existed right under the noses of those of ordinary skill in the art. Thus, this evidence of non-obviousness is overwhelming.

Third, the factual evidence in the administrative record before the Office demonstrates that the art is devoid of Applicant's "switching circuit provided in a heater power supply line between one output of the transformer and a heater of a color display tube." The Examining staff endeavors to remedy this deficiency in the administrative record by asserting that:

"AAPA teaches an apparatus for providing power to a display monitor, said apparatus comprising: ... a feedback circuit for detecting current variation at the output of the transformer (40) and for supplying the detected variation value to the voltage regulator; a signal input port connected to a video output of a computer (50); a microcomputer operated in response to a video signal received at a video input port of the monitor (60) and a corresponding control mode indicating signal (MS); ... **AAPA does not teach a switching circuit provided in a heater power supply line between one output of the transformer and a heater of a color display tube of the monitor for switching off the heater power supply line when the monitor enters a power-off mode; and the microcomputer operated in response to a video signal received at a video input port of the monitor to produce a power control signal.** *Kikinis teaches a microcomputer (339) operated in response to a*

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video signal (127 specifically the HSNC and VSYNC of the video) received at a video input port (333) of the monitor (347) to produce a power control signal (341) to switch off power to the heater (Column 5 lines 3-45) Specifically level 1 "cuts off power to all circuits in the monitor 347 except microcontroller 339, interface 333, and video circuit 345" while level 2 "cuts off power to all circuits except those described above plus the CRT cathode heater" Thus level 1 signal cuts off power to the heater (inherently done by a switch)."

Consequently, not only does the primary reference in the proposed combination fail to "teach a switching circuit provided in a heater power supply line between one output of the transformer and a heater of a color display tube of the monitor for switching off the heater power supply line when the monitor enters a power-off mode," but modifies the primary reference in a manner that impermissibly prevents the primary reference from operating in its intended mode of operation with regulator 20 lowering "the output voltage supplied to the transformer 30, and also lowers all of the output voltages produced at the secondary of the transformer 30."² In point-of-fact, the primary reference does not, as does the Examining staff's proposed combination, "*cuts off power to the heater (inherently done by a switch)*", but instead "regulator 20 lowers the output voltage supplied to transformer 30 ... [and] the power supplied to the heater of a cathode ray tube or color display tube (CDT) 90 is lowered."³

The proposed combination, by imposing a "*a microcomputer (339) operated in response to a video signal (127 specifically the HSNC and VSYNC of the video) received at a video input port (333) of the monitor (347) to produce a power control signal (341) to switch off power to the heater*" upon the circuit of the primary reference, impermissibly prevents the primary reference's "regulator 20" from lowering "the power supplied to the heater of a cathode ray tube." This is not either (i) the structure, (ii) the mode of operation or (iii) the end result produced by the primary reference. Consequently, the Examining staff's proposed combination is untenable, and

² Hong *et al.* '830, col. 4, lines 38-42.

³ Hong *et al.* '830, col. 4, lines 39-44.

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unsupported by the administrative record before the Office.

Withdrawal of this rejection is accordingly requested. Such action is respectfully urged.

Claim 7

Applicant's claim 7 defines, among other features:

“a switching circuit disposed between said power supply means and said heater of the color display tube for selectively switching off the voltage to said heater when the monitor enters a power-off mode;

a control means connected to said switching circuit and receiving a video signal at a video input port of the monitor and for producing a power control signal in response thereto for controlling said switching circuit, said control means producing a mode indicating signal in response to the video signal; and

a mode indicator connected to said control means, receiving the power control and mode indicating signals from said control means, indicating a power mode of the monitor in response to the power control and mode indicating signals.”

First, Paper No. 20080317 however, does not assert that these features are found in the proposed combination, and instead summarily asserts that “[a]ll [sic, of] the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention. It would have also been obvious to perform control via software.” The only “switching circuit” found in the administrative record before the Office however, is “switching circuit 240” taught by Applicant's Figure 2, and defined by Claim 1. Even assuming *arguendo* the undemonstrated factual accuracy of the Examiner's statement, the factual evidence in the administrative record before the Office demonstrates that the art is devoid of Applicant's “a switching circuit disposed between said power supply means and said heater of the color display tube for selectively switching off the voltage to said heater when the monitor enters a power-off mode”; and this omission is convincing indicia of non-obviousness.

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Accordingly, given this lack of support by factual evidence of record, this rejection may not be maintained.

Second, not only does the primary reference in the proposed combination does not make a *prima facie* showing of obviousness because the primary reference fails to “teach a switching circuit provided in a heater power supply line between one output of the transformer and a heater of a color display tube of the monitor for switching off the heater power supply line when the monitor enters a power-off mode,” but modifies the primary reference in a manner that impermissibly prevents the primary reference from operating in its intended mode of operation with regulator 20 lowering “the output voltage supplied to the transformer 30, and also lowers all of the output voltages produced at the secondary of the transformer 30.”⁴ In point-of-fact, the primary reference does not, as does the Examining staff’s proposed combination, “cuts off power to the heater (inherently done by a switch)”, but instead “regulator 20 lowers the output voltage supplied to transformer 30 ... [and] the power supplied to the heater of a cathode ray tube or color display tube (CDT) 90 is lowered.”⁵

The proposed combination, by imposing a “a microcomputer (339) operated in response to a video signal (127 specifically the HSNC and VSYNC of the video) received at a video input port (333) of the monitor (347) to produce a power control signal (341) to switch off power to the heater” upon the circuit of the primary reference, impermissibly prevents the primary reference’s “regulator 20” from lowering “the power supplied to the heater of a cathode ray tube.” This is not either (i) the structure, (ii) the mode of operation or (iii) the end result produced by the primary reference. The requirement for the Examiner’s proposed combination to “lower” the power supplied to the heater of the cathode ray tube prevents the insertion of a switch between the secondary winding of transformer 30 in Figure 1, the primary reference, and video circuit 345 of Kikinis ‘952. Consequently, the Examining staff’s proposed combination is untenable, and unsupported by the administrative record before the Office.

⁴ Hong *et al.* ‘830, col. 4, lines 38-42.

⁵ Hong *et al.* ‘830, col. 4, lines 39-44.

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Withdrawal of this rejection is accordingly requested. Such action is respectfully urged.

Claim 9

Paper No. 20080317 makes no specific application of the proposed combination to the process defined by independent claim 9. Claim 9 defines, among other features, Applicant's:

“providing necessary operating voltages to the monitor including supplying a heater voltage for [supplying] a heater of the color display tube of the monitor, the heater voltage being provided from a power supply to the heater through a switching unit;

receiving a video signal at a video input port of the monitor and generating a power control signal in response [thereto] to the video signal, the video signal including color picture signals R, G, and B; [and]

selectively switching off the heater voltage to the heater of the color display tube in response to the power control signal, said switching being performed by the switching unit disposed between the power supply and the heater”

The proposed combination however, is singularly devoid of Applicant's “heater voltage being provided from a power supply to the heater through a switching unit” and the “switching unit disposed between the power supply and the heater” because neither the primary nor the secondary references suggest any such “switching unit”; consequently, and to paraphrase the rhetorical inquiry of the Board of Patent Appeals And Interferences, if neither the primary nor the secondary references suggest any such “switching unit”, how may the Examining staff persuasively argue that the proposed combination of the primary reference and secondary reference discloses such a “switching unit.” This omission is convincing indicia of non-obviousness. Given this lack of support by factual evidence of record, this rejection may not be maintained. Its withdrawal is respectfully urged.

Claim 11

First, Paper No. 20080317 asserts that,

In regards to claims 11, 17: Kikinis teaches interrupting power to

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the heater independently of other applications (the microcontroller, interface and video circuit).

This is not however, what either the Examiner's proposed combination or Kikinis '952 teaches. Specifically, Kikinis '952 teaches:

Level 1 Power State

In its Level-1 state, the proposed combination "cuts off power to all circuits in the monitor 347 except microcontroller 339, interface 333, and video circuit 345." In the proposed combination, in the language of the Examining staff's proposed combination, "level 1 signal cuts off power to the heater (inherently done by a switch)." This is not what the text of the proposed combination states however, because in its own language, the proposed combination when in its Level-1 state, "cuts off power to all circuits in the monitor 347 except microcontroller 339, interface 333, and video circuit 345." In summation, the proposed combination responds to the onset of a Level-1 state when "video circuit 345 senses an active voltage level on Level-1 signal line 341" and "cuts off power to all circuits in the monitor 347", but does not "cut off power" to microcontroller 339, interface 333, and video circuit 345."

Level 2 Power State

In its Level-2 state, the proposed combination "cuts off power to all circuits except those described above plus the CRT cathode heater." More completely, in its Level-2 state, the proposed combination responds to "an active voltage level on Level-2 signal line 343" and "causes video circuit 345 to cut off power to all circuit in the monitor 347", but does not cut off power to either "microcontroller 339", or "to interface 333", or to "video circuit 345" or to "the CRT cathode heater."

Moreover, the primary reference teaches that regulator 20, by lowering "the output voltage supplied to the transformer 30, and also lowers all of the output voltages produced at the secondary of the transformer 30."⁶ In point-of-fact, the primary reference does not, as does the Examining staff's proposed combination, cut "off power to the heater (inherently done by a switch)", but

⁶ Hong *et al.* '830, col. 4, lines 38-42.

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instead “regulator 20” of the primary reference “lowers the output voltage supplied to transformer 30 ... [and] the power supplied to the heater of a cathode ray tube or color display tube (CDT) 90 is lowered.”⁷

Accordingly, not only does the Examiner’s proposed combination fail to make a *prima facie* showing of obviousness, but the proposed combination, by imposing a “*a microcomputer (339) operated in response to a video signal (127 specifically the HSYNC and VSYNC of the video) received at a video input port (333) of the monitor (347) to produce a power control signal (341) to switch off power to the heater*” upon the circuit of the primary reference, impermissibly prevents the primary reference’s “regulator 20” from lowering “the power supplied to the heater of a cathode ray tube.” This is not either (i) the structure, (ii) the mode of operation or (iii) the end result produced by the primary reference. Consequently, the Examining staff’s proposed combination is untenable, and unsupported by the administrative record before the Office.

Withdrawal of this rejection is accordingly requested. Such action is respectfully urged.

Second, Applicant’s claim 11 defines:

“a power supply providing electrical energy to a heater of a tube in a monitor; and
a switch disposed between said power supply and the heater, said switch interrupting application of the electrical energy to the heater independently of other interruptions of other applications of the electrical energy to the monitor when the monitor enters a power-off mode.”

In support of this rejection the Paper No. 20080319 asserted that

“In regards to claims 11, 17: Kikinis teaches interrupting power to the heater independently of other applications (the microcontroller, interface and video circuit).”

Paper No. 20080319 has used a paraphrase of the actual language of Applicant’s claim 11, and has applied the cited art in order to conclude that this paraphrase is obvious. The use of a paraphrase of the actual language of a claim is improper under 35 U.S.C. §103(a) however, because §103(a)

⁷ Hong *et al.* ‘830, col. 4, lines 39-44.

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requires consideration of *the subject matter as a whole*, rather than an abbreviated paraphrase of that *subject matter*. In point of fact, claim 11 defines “said switch interrupting application of the electrical energy to the heater independently of other interruptions of other applications of the electrical energy to the monitor when the monitor enters a power-off mode.”

Paper No. 20080319 makes no attempt to demonstrate that the actual text of claim 11, that is *the subject matter as a whole*, rather than an abbreviated paraphrase of that *subject matter*, may be found within the teachings of the applied art. The evidentiary inference is therefore, that such prior art does not exist. Regardless of the reason for the absence of a *prima facie* showing, on the administrative record before the Office, there is no *prima facie* showing of the obviousness of *the subject matter as a whole*; withdrawal of this rejection is therefore respectfully urged.

Third, a thorough reading of the applied art, together with Kikinis *et al.* '952 finds no teaching of Applicant's “a switch disposed between said power supply and the heater, said switch interrupting application of the electrical energy to the heater independently of other interruptions of other applications of the electrical energy to the monitor when the monitor enters a power-off mode” because the Examiner's proposed combination as well as Kikinis *et al.* '952, expressly teaches that, in its Level-1 state, the proposed combination,

“cuts off power to *all circuits* in the monitor 347 except microcontroller 339, interface 333, and video circuit 345.”
(Emphasis added)

In the proposed combination, the proposed combination responds to the onset of a Level-1 state when “video circuit 345 senses an active voltage level on Level-1 signal line 341” and “cuts off power to all circuits in the monitor 347”, but does not “cut off power” to microcontroller 339, interface 333, and video circuit 345.” In other words, the applied art suggests neither (i) Applicant's switch, (ii) nor Applicant's *power-off mode*, (iii) nor an interruption of the *application of the electrical energy to the heater independently of other interruptions of other applications of the electrical energy to the monitor when the monitor enters a power-off mode*. These differences between claim 11 and the Examiner's proposed combination are not addressed by Paper No. 20080317.

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In order to make a *prima facie* demonstration of obviousness under 35 U.S.C. §103(a), "all the elements of" the pending claims must be "accounted for in the prior art relied upon in this record."⁸ Where neither the Examiner's proposed combination nor Paper No. 20080317 has addressed the applied art suggests neither (i) Applicant's switch, (ii) nor Applicant's *power-off mode*, (iii) nor an interruption of the *application of the electrical energy to the heater independently of other interruptions of other applications of the electrical energy to the monitor when the monitor enters a power-off mode*, there is no *prima facie* showing of obviousness. Withdrawal of this rejection is respectfully urged.

Claim 17

Independent claim 17 defines the steps of a process for:

"providing electrical energy to a heater of a tube in a monitor and to a plurality of electrodes in the monitor;
providing a switch between a source of said electrical energy and the heater; and
operating the switch to interrupt application of the electrical energy to the heater independently of other interruptions of other applications of the electrical energy to others of the plurality of electrodes when the monitor enters a power-off mode when the monitor enters a power-off mode."

Applicant has, in the originally filed specification defined "a power-off mode" as "when the monitor is operated in the power-off mode of the DPMS system, the power control signal generated by the microcomputer enables the switching circuit directly to cut off the power supply line from the output of the power supplying second to the heater of the color display tube."⁹ This is not what either the primary reference or the Examiner's proposed combination provide however, because the neither the primary reference nor the proposed combination provide "a switch between

⁸ *In re John B. Sullivan, et al.*, ____ F.3d ____, ____ U.S.P.Q.2d ____ (Fed. Cir. 2007).

⁹ Hong, *et al.* '830, col. 3, lines 49-54.

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a source of said power and said heater and turn "off said switch when the monitor enters a power-off mode." In point-of-fact, the proposed combination as well as the secondary reference teaches a process for "responding to the onset of a Level-1 state when "video circuit 345 senses an active voltage level on Level-1 signal line 341" by cutting "off power to all circuits in the monitor 347", but not by cutting "off power" to microcontroller 339, interface 333, and video circuit 345", and in its Level-2 state, responding to "an active voltage level on Level-2 signal line 343" and causing "video circuit 345 to cut off power to all circuit in the monitor 347", but not cutting off power to either "microcontroller 339", or "to interface 333", or to "video circuit 345" or to "the CRT cathode heater." Claim 17's switch is neither taught nor suggested. Moreover, the primary reference's intended mode of operation with its lowering of power supplied to the heater, is impermissibly thwarted by the proposed combination. Given this impermissible deprivation of the ability of the primary reference to perform in its intended mode of operation, and the absence of a *prima facie* showing of obviousness due to the lack of support by factual evidence of record, this rejection may not be maintained. Its withdrawal is respectfully urged.

Claim 21

Independent software claim 21 defines the steps of a process for:¹⁰

"providing power to a heater of a tube in a monitor;
providing a switch between a source of said power and said
heater; and
turning off said switch when the monitor enters a power-off
mode."

Applicant has, in the originally filed specification defined "a power-off mode" as "when the monitor is operated in the power-off mode of the DPMS system, the power control signal generated by the microcomputer enables the switching circuit directly to cut off the power supply

¹⁰ See process software claim 31 held valid and infringed by *TiVo, Inc. v. Echostar Communications Corporation, et al.*, ___ F.3d ___ (Fed. Cir. 31st January 2008).

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line from the output of the power supplying second to the heater of the color display tube.”¹¹ This is not what either the primary reference or the Examiner’s proposed combination provide however, because the neither the primary reference nor the proposed combination provide “a switch between a source of said power and said heater and turn “off said switch when the monitor enters a power-off mode.” In point-of-fact, the proposed combination as well as the secondary reference teaches a process for “responding to the onset of a Level-1 state when “video circuit 345 senses an active voltage level on Level-1 signal line 341” by cutting “off power to all circuits in the monitor 347”, but not by cutting “off power” to microcontroller 339, interface 333, and video circuit 345”, and in its Level-2 state, responding to “an active voltage level on Level-2 signal line 343” and causing “video circuit 345 to cut off power to all circuit in the monitor 347”, but not cutting off power to either “microcontroller 339”, or “to interface 333”, or to “video circuit 345” or to “the CRT cathode heater.” Claim 21’s switch is neither taught nor suggested. Moreover, the primary reference’s intended mode of operation with its lowering of power supplied to the heater, is impermissibly thwarted by the proposed combination. Given this impermissible deprivation of the ability of the primary reference to perform in its intended mode of operation, and the absence of a *prima facie* showing of obviousness due to the lack of support by factual evidence of record, this rejection may not be maintained. Its withdrawal is respectfully urged.

Claim 25

Apparatus claim 25 defines,

“a control unit receiving signals, and generating a control signal in dependence upon the received signals; and a switch being disposed between a power supply and a heater in a monitor, said switch selectively switching on and off in response to the control signal, said switch switching on to convey power from the power supply to the heater when the control signal does not correspond to a power off mode of the monitor, said switch

¹¹ Hong, *et al.* ‘830, col. 3, lines 49-54.

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switching off to prevent the heater from receiving power from the power supply when the control signal corresponds to the power off mode of the monitor.”

The primary reference however, teaches that regulator 20, by lowering “the output voltage supplied to the transformer 30, and also lowers all of the output voltages produced at the secondary of the transformer 30.”¹² In point-of-fact, the primary reference does not, as does the Examining staff’s proposed combination, cut “*off power to the heater (inherently done by a switch)*”, but instead “regulator 20” of the primary reference “lowers the output voltage supplied to transformer 30 ... [and] the power supplied to the heater of a cathode ray tube or color display tube (CDT) 90 is lowered.”¹³

Accordingly, not only does the Examiner’s proposed combination fail to make a *prima facie* showing of obviousness, but the proposed combination, by imposing a “*a microcomputer (339) operated in response to a video signal (127 specifically the HSNC and VSYNC of the video) received at a video input port (333) of the monitor (347) to produce a power control signal (341) to switch off power to the heater*” upon the circuit of the primary reference, impermissibly prevents the primary reference’s “regulator 20” from lowering “the power supplied to the heater of a cathode ray tube.” This is not either (i) the structure, (ii) the mode of operation or (iii) the end result produced by the primary reference. Consequently, the Examining staff’s proposed combination fails to make a *prima facie* showing of obviousness, and impermissibly prevents the primary reference from operating in its intended mode of operation, and thus is untenable, and unsupported by the administrative record before the Office.

Withdrawal of this rejection is accordingly requested. Such action is respectfully urged.

Claim 31

Applicant’s original specification teaches in the originally filed specification that “a

¹² Hong *et al.* ‘830, col. 4, lines 38-42.

¹³ Hong *et al.* ‘830, col. 4, lines 39-44.

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power-off mode” as “when the monitor is operated in the power-off mode of the DPMS system, the power control signal generated by the microcomputer enables the switching circuit directly to cut off the power supply line from the output of the power supplying second to the heater of the color display tube.”¹⁴ This is not what either the primary reference or the Examiner’s proposed combination provide however, because the neither the primary reference nor the proposed combination provide “a switch between a source of said power and said heater and turn “off said switch when the monitor enters a power-off mode.””

The process of independent claim 31 is defined as:

“receiving at least one signal, and generating a control signal in dependence upon the received at least one signal;
when the control signal does not correspond to a power off mode of a monitor, conveying power from a power supply to a heater in the monitor; and
when the control signal does correspond to the power off mode of the monitor, preventing the heater from receiving power.”

The primary reference however, teaches that regulator 20, by lowering “the output voltage supplied to the transformer 30, and also lowers all of the output voltages produced at the secondary of the transformer 30.”¹⁵ In point-of-fact, the primary reference does not, as does the Examining staff’s proposed combination, cut “*off power to the heater (inherently done by a switch)*”, but instead “regulator 20” of the primary reference “lowers the output voltage supplied to transformer 30 ... [and] the power supplied to the heater of a cathode ray tube or color display tube (CDT) 90 is lowered.”¹⁶ The secondary reference however, teaches that,

“an interval count of HSYNC 335 pulses greatly in excess of the maximum video scan rate of monitor 347, indicating a loss of VSYNC 337, causes microcontroller 339 to change the voltage on Level-1 signal line 341.”

¹⁴ Hong, *et al.* ‘830, col. 3, lines 49-54.

¹⁵ Hong *et al.* ‘830, col. 4, lines 38-42.

¹⁶ Hong *et al.* ‘830, col. 4, lines 39-44.

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Nowhere in either the Examiner's proposed combination, in the primary reference, or in the secondary reference is Claim 31's "power off mode" suggested. Accordingly, not only does the Examiner's proposed combination fail to make a *prima facie* showing of obviousness, but the proposed combination, by imposing a "*a microcomputer (339) operated in response to a video signal (127 specifically the HSNC and VSYNC of the video) received at a video input port (333) of the monitor (347) to produce a power control signal (341) to switch off power to the heater*" upon the circuit of the primary reference, impermissibly prevents the primary reference's "regulator 20" from lowering "the power supplied to the heater of a cathode ray tube." This is not either (i) the structure, (ii) the mode of operation or (iii) the end result produced by the primary reference. Consequently, the Examining staff's proposed combination fails to make a *prima facie* showing of obviousness, and impermissibly prevents the primary reference from operating in its intended mode of operation, and thus is untenable, and unsupported by the administrative record before the Office.

Withdrawal of this rejection is accordingly requested. Such action is respectfully urged.

Claim 35

Applicant's original specification teaches in the originally filed specification that "a power-off mode" as "when the monitor is operated in the power-off mode of the DPMS system, the power control signal generated by the microcomputer enables the switching circuit directly to cut off the power supply line from the output of the power supplying second to the heater of the color display tube."¹⁷ This is not what either the primary reference or the Examiner's proposed combination provide however, because the neither the primary reference nor the proposed combination provide "a switch between a source of said power and said heater and turn "off said switch when the monitor enters a power-off mode."

¹⁷ Hong, *et al.* '830, col. 3, lines 49-54.

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The process defined by independent hardware claim 35 reads:¹⁸

“receiving at least one signal, and generating a control signal in dependence upon the received at least one signal;
when the control signal does not correspond to a power off mode of a monitor, conveying power from a power supply to a heater in the monitor; and
when the control signal does correspond to the power off mode of the monitor, preventing the heater from receiving power.”

The primary reference however, teaches that regulator 20, by lowering “the output voltage supplied to the transformer 30, also lowers all of the output voltages produced at the secondary of the transformer 30.”¹⁹ In point-of-fact, the primary reference does not, as does the Examining staff’s proposed combination, cut “*off power to the heater (inherently done by a switch)*”, but instead “regulator 20” of the primary reference “lowers the output voltage supplied to transformer 30 ... [and] the power supplied to the heater of a cathode ray tube or color display tube (CDT) 90 is lowered.”²⁰ The Examining staff may not ignore the differences found in the express teaching by the secondary reference that,

“an interval count of HSYNC 335 pulses greatly in excess of the maximum video scan rate of monitor 347, indicating a loss of VSYNC 337, causes microcontroller 339 to change the voltage on Level-1 signal line 341.”

Nowhere in either the Examiner’s proposed combination, in the primary reference, or in the secondary reference is Claim 35’s “power off mode” suggested. Accordingly, not only does the Examiner’s proposed combination fail to make a *prima facie* showing of obviousness, but the proposed combination, by imposing a “*a microcomputer (339) operated in response to a video signal (127 specifically the HSYNC and VSYNC of the video) received at a video input port (333)*”

¹⁸ See the process defined by hardware claim 1 held valid and infringed by *TiVo, Inc. v. EchoStar Communications Corporation, et al.*, ____ F.3d ____ (Fed. Cir. 31st January 2008).

¹⁹ Hong *et al.* ‘830, col. 4, lines 38-42.

²⁰ Hong *et al.* ‘830, col. 4, lines 39-44.

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of the monitor (347) to produce a power control signal (341) to switch off power to the heater” upon the circuit of the primary reference, impermissibly prevents the primary reference’s “regulator 20” from lowering “the power supplied to the heater of a cathode ray tube.” This is not either (i) the structure, (ii) the mode of operation or (iii) the end result produced by the primary reference. Consequently, the Examining staff’s proposed combination fails to make a *prima facie* showing of obviousness, and impermissibly prevents the primary reference from operating in its intended mode of operation, and thus is untenable, and unsupported by the administrative record before the Office.

Withdrawal of this rejection is accordingly requested. Such action is respectfully urged.

Claim 38

The apparatus defined by claim 38 includes,

“a control unit having an input terminal receiving an input signal, and having an output terminal outputting a control signal in dependence upon the received input signal, the control signal corresponding to a first power signal when the input signal does not include synchronization signals;

a power supply supplying power;

a heater of a cathode ray tube of a monitor; and

a switch being disposed between said power supply and said heater, said switch having a first input terminal connected to said power supply and receiving the power, a second input terminal connected to said control unit and receiving said control signal, and an output terminal connected to said heater, said switch selectively operating in response to the control signal received from said control unit, said switch conveying the power from said power supply to said heater when the control signal does not correspond to the first power signal, said switch not conveying the power from said power supply to said heater when the control signal corresponds to the first power signal.”

In contradistinction, Applicant’s original specification teaches in the originally filed specification that “a microcontroller 339 having MPM instructions according to the present invention and a video circuit (VC) 345 having voltage control circuits. Interface 333 separates the signals received

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through VGA cable 127, into color signals, R, G, and B, HSYNC pulses 335 and VSYNC pulses 337. Microcontroller 339 monitors the HSYNC signal 335 and VSYNC signal 337. The MPM instructions described above count the number of HSYNC pulses occurring between each pair of VSYNC pulses. ... an interval count of HSYNC 335 pulses greatly in excess of the maximum video scan rate of monitor 347, indicating a loss of VSYNC 337, causes microcontroller 339 to change the voltage on Level-1 signal line 341." This relation between the interval counts of HSYNC 335 fails to meet either of Applicant's (i) "the control signal corresponding to a first power signal when the input signal does not include synchronization signals" or (ii) "said switch not conveying the power from said power supply to said heater when the control signal corresponds to the first power signal."

Paper No. 20080317 fails to observe that this is not what either the primary reference or the Examiner's proposed combination provide however, because neither the primary reference nor the proposed combination provide Applicant's "switch being disposed between said power supply and said heater, said switch having a first input terminal connected to said power supply and receiving the power, a second input terminal connected to said control unit and receiving said control signal, and an output terminal connected to said heater" and the "switch selectively operating in response to the control signal received from said control unit, said switch conveying the power from said power supply to said heater when the control signal does not correspond to the first power signal, said switch not conveying the power from said power supply to said heater when the control signal corresponds to the first power signal."

The primary reference however, teaches that regulator 20, by **lowering** "the output voltage supplied to the transformer 30, also lowers all of the output voltages produced at the secondary of the transformer 30."²¹ In point-of-fact, the primary reference does not, as does the Examining staff's proposed combination, cut "*off power to the heater (inherently done by a switch)*", but instead "regulator 20" of the primary reference "lowers the output voltage supplied to transformer 30 ... [and] the power supplied to the heater of a cathode ray tube or color display tube (CDT) 90

²¹ Hong *et al.* '830, col. 4, lines 38-42.

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is lowered.²² The Examining staff may not ignore the differences found in the express teaching by the secondary reference that,

“an interval count of HSYNC 335 pulses greatly in excess of the maximum video scan rate of monitor 347, indicating a loss of VSYNC 337, causes microcontroller 339 to change the voltage on Level-1 signal line 341.”

Nowhere in either the Examiner's proposed combination, or in the primary reference is Claim 38's, “switch not conveying the power from said power supply to said heater when the control signal corresponds to the first power signal” suggested. Accordingly, not only does the Examiner's proposed combination fail to make a *prima facie* showing of obviousness, but the proposed combination, by imposing a “a microcomputer (339) operated in response to a video signal (127 specifically the HSYNC and VSYNC of the video) received at a video input port (333) of the monitor (347) to produce a power control signal (341) to switch off power to the heater” upon the circuit of the primary reference, impermissibly prevents the primary reference's “regulator 20” from lowering “the power supplied to the heater of a cathode ray tube.” This is not either (i) the structure, (ii) the mode of operation or (iii) the end result produced by the primary reference. Consequently, the Examining staff's proposed combination fails to make a *prima facie* showing of obviousness, and impermissibly prevents the primary reference from operating in its intended mode of operation, and thus is untenable, and unsupported by the administrative record before the Office.

Withdrawal of this rejection is accordingly requested. Such action is respectfully urged.

Claim 43

As explained earlier in these remarks, Applicant's original specification teaches in the originally filed specification that “a microcontroller 339 having MPM instructions according to the present invention and a video circuit (VC) 345 having voltage control circuits. Interface 333

²² Hong *et al.* '830, col. 4, lines 39-44.

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separates the signals received through VGA cable 127, into color signals, R, G, and B, HSYNC pulses 335 and VSYNC pulses 337. Microcontroller 339 monitors the HSYNC signal 335 and VSYNC signal 337. The MPM instructions described above count the number of HSYNC pulses occurring between each pair of VSYNC pulses. ... an interval count of HSYNC 335 pulses greatly in excess of the maximum video scan rate of monitor 347, indicating a loss of VSYNC 337, causes microcontroller 339 to change the voltage on Level-1 signal line 341.” This relation between the interval counts of HSYNC 335 fails to meet either of Applicant’s (i) “the control signal corresponding to a first power signal when the input signal does not include synchronization signals” or (ii) “said switch not conveying the power from said power supply to said heater when the control signal corresponds to the first power signal.”

Paper No. 20080317 fails to observe that this is not what either the primary reference or the Examiner’s proposed combination provide however, because neither the primary reference nor the proposed combination provide Claim 43’s,

“detecting whether a synchronization signal is present;
generating a control signal in dependence upon the detected
presence of the synchronization signal, the control signal
corresponding to a first power signal when the synchronization
signal is not present; and
preventing power from a power supply from being conveyed
to a heater of a cathode ray tube when the first power signal is
generated.”

The primary reference however, teaches that regulator 20, by lowering “the output voltage supplied to the transformer 30, also lowers all of the output voltages produced at the secondary of the transformer 30.”²³ In point-of-fact, the primary reference does not, as does the Examining staff’s proposed combination, cut “*off power to the heater (inherently done by a switch)*”, but instead “regulator 20” of the primary reference “lowers the output voltage supplied to transformer 30 ... [and] the power supplied to the heater of a cathode ray tube or color display tube (CDT) 90

²³ Hong *et al.* ‘830, col. 4, lines 38-42.

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is lowered.²⁴ These differences illustrate that not only does the Examiner's proposed combination fail to make a *prima facie* showing of obviousness, but the proposed combination, by imposing a "a microcomputer (339) operated in response to a video signal (127 specifically the HSYNC and VSYNC of the video) received at a video input port (333) of the monitor (347) to produce a power control signal (341) to switch off power to the heater" upon the circuit of the primary reference, impermissibly prevents the primary reference's "regulator 20" from lowering "the power supplied to the heater of a cathode ray tube." This is not either (i) the structure, (ii) the mode of operation or (iii) the end result produced by the primary reference. Consequently, the Examining staff's proposed combination fails to make a *prima facie* showing of obviousness, and impermissibly prevents the primary reference from operating in its intended mode of operation, and thus is untenable, and unsupported by the administrative record before the Office.

Withdrawal of this rejection is accordingly requested. Such action is respectfully urged.

Claim 46

The process of independent hardware claim 46 contemplates:

"detecting whether a synchronization signal is present;
generating a control signal in dependence upon the detected
presence of the synchronization signal, the control signal
corresponding to a first power signal when the synchronization
signal is not present;
conveying power from a power supply to a heater of a
cathode ray tube when the first power signal is not generated; and
preventing the power from a power supply from being
conveyed to the heater when the first power signal is generated."

The primary reference however, teaches that regulator 20, by lowering "the output voltage supplied to the transformer 30, also lowers all of the output voltages produced at the secondary of the transformer 30."²⁵ In point-of-fact, the primary reference does not, as does the Examining

²⁴ Hong *et al.* '830, col. 4, lines 39-44.

²⁵ Hong *et al.* '830, col. 4, lines 38-42.

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staff's proposed combination, cut "*off power to the heater (inherently done by a switch)*", but instead "regulator 20" of the primary reference "*lowers the output voltage supplied to transformer 30 ... [and] the power supplied to the heater of a cathode ray tube or color display tube (CDT) 90 is lowered.*"²⁶ These differences illustrate that not only does the Examiner's proposed combination fail to make a *prima facie* showing of obviousness, but the proposed combination, by imposing a "*a microcomputer (339) operated in response to a video signal (127 specifically the HSNC and VSYNC of the video) received at a video input port (333) of the monitor (347) to produce a power control signal (341) to switch off power to the heater*" upon the circuit of the primary reference, impermissibly prevents the primary reference's "regulator 20" from lowering "the power supplied to the heater of a cathode ray tube." This is not either (i) the structure, (ii) the mode of operation or (iii) the end result produced by the primary reference. In essence, the sole basis for the proposed combination is a hindsight reconstruction of the prior art in the light provided solely by Applicant's teachings as set forth in claim 46. Consequently, the Examining staff's proposed combination fails to make a *prima facie* showing of obviousness, and impermissibly prevents the primary reference from operating in its intended mode of operation, and thus is untenable, and unsupported by the administrative record before the Office.

There is no basis on the administrative record before the Office to support this rejection, and withdrawal of this rejection is accordingly requested. Such action is respectfully urged.

Claim 49

Claim 49 defines,

"a power supply unit supplying a heater voltage to a heater of the color display tube;
a switching circuit disposed between said power supply unit and said heater selectively switching off the voltage to said heater when the monitor enters power-off mode;
a control unit connected to said switching circuit, receiving an input signal at a video input port of the monitor, producing a

²⁶ Hong *et al.* '830, col. 4, lines 39-44.

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power control signal in response to the input signal, said switching circuit switching in response to the power control signal, said control unit producing a mode indicating signal in response to the input signal”

Applicant respectfully observes, once again, that the primary reference however, teaches that regulator 20, by **lowering** “the output voltage supplied to the transformer 30, also lowers all of the output voltages produced at the secondary of the transformer 30.”²⁷ In point-of-fact, the primary reference does not, as does the Examining staff’s proposed combination, cut “*off power to the heater (inherently done by a switch)*”, but instead “regulator 20” of the primary reference “lowers the output voltage supplied to transformer 30 ... [and] the power supplied to the heater of a cathode ray tube or color display tube (CDT) 90 **is lowered**.”²⁸ These differences illustrate that not only does the Examiner’s proposed combination fail to make a *prima facie* showing of obviousness, but the proposed combination, by imposing a “*a microcomputer (339) operated in response to a video signal (127 specifically the HSNC and VSYNC of the video) received at a video input port (333) of the monitor (347) to produce a power control signal (341) to switch off power to the heater*” upon the circuit of the primary reference, impermissibly prevents the primary reference’s “regulator 20” from **lowering** “the power supplied to the heater of a cathode ray tube.” This is not either (i) the structure, (ii) the mode of operation or (iii) the end result produced by the primary reference. In essence, the sole basis for the proposed combination is a hindsight reconstruction of the prior art in the light provided solely by Applicant’s teachings as set forth in claim 49. Consequently, the Examining staff’s proposed combination fails to make a *prima facie* showing of obviousness, and impermissibly prevents the primary reference from operating in its intended mode of operation, and thus is untenable, and unsupported by the administrative record before the Office. There is no basis on the administrative record before the Office to support this rejection, and withdrawal of this rejection is accordingly requested. Such action is respectfully urged.

²⁷ Hong *et al.* ‘830, col. 4, lines 38-42.

²⁸ Hong *et al.* ‘830, col. 4, lines 39-44.

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P54428RE**Claims 51, 53 and 55**

Applicant's claim 51 defines,

“providing necessary operating voltage to the monitor including supplying a heater voltage for a heater of the color display tube of the monitor, the heater voltage being provided from a power supply to the heater through a switching unit;

receiving an input signal at a video input port of the monitor and generating a power control signal in response to the input signal;

selectively switching off the heater voltage to the heater of the color display tube in response to the power control signal, said switching being performed by the switching unit disposed between the power supply and the heater.”

while independent claim 53 defines,

a control unit receiving an input signal, generating a power control signal in dependence upon said input signal, said control unit being configured to generate a mode indication signal in dependence upon said input signal;

a switching unit receiving a power and receiving said power control signal, said switching unit switching on and off in dependence upon said power control signal, said switching unit switching on to supply the received power to a heater in a monitor, said switching unit switching off to directly cut off the supply of power to the heater when said power control signal corresponds to a power-off mode ...”,

and independent apparatus claim 55 defines,

a power supply outputting a power;

a control unit detecting a synchronization signal, and generating a first control signal when said synchronization signal is not detected;

a switch being disposed between said power supply and said tube heater, said switch being configured to receive the first control signal from said control unit, said switch switching off to prevent the power from being delivered to the heater when the first control signal is received.

It is worth repeating Applicant's observation that the primary reference teaches that regulator 20,

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by lowering “the output voltage supplied to the transformer 30, also lowers all of the output voltages produced at the secondary of the transformer 30.”²⁹ In point-of-fact, the primary reference does not, as does the Examining staff’s proposed combination, cut “*off power to the heater (inherently done by a switch)*”, but instead employs “regulator 20” of the primary reference which effectively “lowers the output voltage supplied to transformer 30 ... [and] the power supplied to the heater of a cathode ray tube or color display tube (CDT) 90 is lowered.”³⁰ These differences illustrate that not only does the Examiner’s proposed combination fail to make a *prima facie* showing of obviousness, but the proposed combination, by imposing a “*a microcomputer (339) operated in response to a video signal (127 specifically the HSNC and VSYNC of the video) received at a video input port (333) of the monitor (347) to produce a power control signal (341) to switch off power to the heater*” upon the circuit of the primary reference, impermissibly prevents the primary reference’s “regulator 20” from lowering “the power supplied to the heater of a cathode ray tube.” This is not either (i) the structure, (ii) the mode of operation or (iii) the end result produced by the primary reference. In essence, the sole basis for the proposed combination is a hindsight reconstruction of the prior art in the light provided solely by Applicant’s teachings as set forth in claims 51, 53 and 55. Consequently, the Examining staff’s proposed combination fails to make a *prima facie* showing of obviousness, and impermissibly prevents the primary reference from operating in its intended mode of operation, and thus is untenable, and unsupported by the administrative record before the Office. There is no basis on the administrative record before the Office to support this rejection, and withdrawal of this rejection is accordingly requested. Such action is respectfully requested.

- B. Rejection of claims 2, 16, 30, 42, 60 are rejected under 35 U.S.C. §103(a) as being unpatentable over AAPA in view of Kikinis (U.S. Patent No. 5,389,952) as applied to claim 1, and further in view of Heidt (U.S. Patent No. 3,703,679).**

²⁹ Hong *et al.* ‘830, col. 4, lines 38-42.

³⁰ Hong *et al.* ‘830, col. 4, lines 39-44.

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Claims 2, 16, 30, 42, 60 are rejected under 35 U.S.C. §103(a) as being unpatentable over AAPA in view of Kikinis PN 5,389,952 as applied to claim 1 above, and further in view of Heidt PN 3,703,679. Applicant respectfully traverses this rejection for the following reasons.

In support of this rejection, Paper No. 20080317 asserts that,

“In regards to claims 2, 16, 30, 42, 60: Kikinis teaches switching off power to the heater. Kikinis is silent upon the structure of the power switch. Heidt teaches a current regulated power cutoff switch comprising: a first transistor (28) for switching on or off the power supply line between the input 20 and the output (24) in response to a base bias current supplied from said output of the transformer (via resistor 34); a second transistor (32) for selectively switching a base bias current path of the first transistor to ground (via resistor 36); and a third transistor (42 or alternatively 46) for selectively switching a operating voltage supply line to a base bias resistor (50 in conjunction with 49) of the second transistor (32) to ground (via 56) in response to the level of the power control signal supplied (60). All the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time of the invention.”

Applicant respectfully notes that the primary reference contains no teaching of Applicant’s “switch being disposed between said power supply and said tube heater”, but instead teaches “regulator 20” of the primary reference which effectively “lowers the output voltage supplied to transformer 30 ... [and] the power supplied to the heater of a cathode ray tube or color display tube (CDT) 90 is lowered.”³¹ There is, in the practice of the primary reference, no suggestion of Applicant’s claimed “switching off to prevent the power from being delivered to the heater.”

These omissions and differences between the applied art and Applicant’s claims illustrate that not only does the Examiner’s proposed combination fail to make a *prima facie* showing of obviousness, but the proposed combination, by imposing a “*a microcomputer (339) operated in response to a video signal (127 specifically the HSNC and VSYNC of the video) received at a video*

³¹ Hong *et al.* ‘830, col. 4, lines 39-44.

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input port (333) of the monitor (347) to produce a power control signal (341) to switch off power to the heater” upon the circuit of the primary reference, impermissibly prevents the primary reference’s “regulator 20” from lowering “the power supplied to the heater of a cathode ray tube.” This is not either (i) the structure, (ii) the mode of operation or (iii) the end result produced by the primary reference.

Moreover, the supplementation of the proposed combination with the transistor circuit of Heidt ‘679 is simply a piecemeal examination of the pending claims in the light provided by Applicant alone. This rejection may not be maintained because this is not the standard for making a determination of obviousness *vel non* under 35 U.S.C. §103(a). Its withdrawal is therefore urged.

Allowable Subject Matter

Claims 5 and 6 are objected to for dependency upon a rejected base claim, but the Examiner stated that these claims would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

In view of the foregoing arguments and remarks, all claims are deemed to be allowable and this application is believed to be in condition to be passed to issue. Should any questions remain unresolved, the Examiner is requested to telephone Applicants’ attorney.

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No fees are incurred by this Amendment/Response.

Respectfully submitted,



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